measuring the conductivity of the water entering the reverse osmosis cartridge, and then measuring the conductivity of the water at the outlet of the reverse osmosis cartridge. The conductivity of the water is proportional to the total dissolved solids. A ratio of the conductivity levels will provide an indication of the rejection efficiency of the reverse osmosis membrane.

Prior art systems also include an application wherein a permeate pump is included in a factory installation. The permeate pump provides greater efficiency in the system. The permeate pump increases the net pressure across the reverse osmosis membrane by isolating the membrane pressure from the pressure in the products water and thus reducing the permeate back pressure.

The prior art also includes systems which address reducing the spillage of fluid occurring during replacement of the cartridges.

SUMMARY OF THE DISCLOSURE~~INVENTION~~

It is an object of the present ~~invention~~disclosure to provide an improved locking mechanism for a filter cartridge and manifold head.

It is a further object of the present ~~invention~~disclosure to provide an improved method of monitoring the performance of a reverse osmosis membrane in a drinking water supply system.

It is further object of the present ~~invention~~disclosure to provide a modular manifold head system.

It is an object of the present ~~invention~~disclosure to provide a system for retrofitting a reverse osmosis filter system to include a permeate pump application.

It is an object of the present ~~invention~~disclosure to provide a cartridge which has a reduced inlet opening to reduce spillage during changing of the cartridge.

In one aspect, there is provided an annular collar having an outside surface, and inside surface, a top end, and a bottom end, said annular collar releasably attachable to a filter cartridge on said annular collar bottom end and to a manifold on said annular collar top end, comprising: a double lead thread on said inside surface adapted to mate with a corresponding outer threaded connector on said manifold; and an extended lip portion on said bottom end for mating with said filter cartridge.